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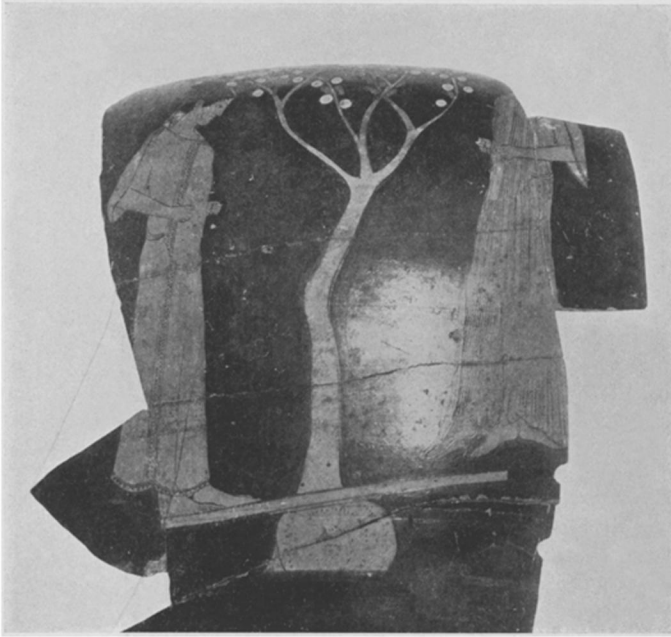
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*See-Saw**Fragment of a Jar*

portraiture. Though it is done by the simplest possible means, no essential detail is lacking. The long ears, the tufted tail, the scanty mane, the long back streak across the shoulder, and the bars on the legs are all correctly observed and rendered. But it is rather the line of the back, the poise of the head, and the sidelong glance of the eye that give the character of the beast. The accessories are drawn with equal care. The bridle is decorated at the bottom with a fringe, as often nowadays in Italy and Greece. The halter is tied to one of the uprights of the saddle. This is a wooden framework fastened by three girths over a fringed saddle-cloth. Two stout ropes, one tied to the tail, the other passing around the animal's chest, serve to hold the burden in place. For those who have seen goods carried in this manner over the mountain passes of Greece, and have had

*Fragment of a Kylix*

painful experience of wooden saddles of similar construction, this vase painting possesses additional interest, as showing once again how little the external conditions of life have changed in that country during the last twenty-four hundred years.

The next illustration shows an equally unusual scene painted on a fragment of a large jar, perhaps of the type known as a stamnos. In front of a fruit tree a board laid across a large log serves as a see-saw for two girls. The spirit of the action is very successfully caught, and the whole forms a graceful composition.

There is no lack of the commoner types of decoration. A fragment from the interior of an early kylix by Euphronios shows a warrior in full armor and an archer in Asiatic garb kneeling side by side.* On the interior of another kylix is a splendid standing figure of an armed youth, while on the outside a num-

ber of youths are drawn in a variety of charming poses putting on their armor. A fragmentary psykter, or wine-cooler, contains a mythological scene in the severe style,—Pentheus torn to pieces by Maenads.† A fine skyphos, in the style of Brygos, fortunately intact, is decorated with athletes practising the broad jump under the direction of their trainers. Such athletic scenes occur with great frequency on the vases of this period. On the small fragment illustrated below a momentary pose, observed in some Athenian gymnasium, has been skillfully used to form the interior design of a kylix. A naked youth stoops over a large bath basin set on a pedestal in the form of an Ionic column. With his right hand he is testing the temperature of the water; his left hand holds a pitcher with which he is dipping up additional hot water from a bowl on the ground.

These fragments have been placed on exhibition in their chronological places in the series of Greek vases shown in the ground floor rooms devoted to the collection. L. D. C.

The Work of the Harvard University— Museum of Fine Arts Egyptian Expedition

1. PYRAMID OF ZAWIET-EL-ARYAN

THE great pyramids of Giza form only one group in the series of royal cemeteries which extend from Abu Roash to the Fayyum. Each site is marked by pyramids or the ruins of pyramids. The third site from the north is that of Zawiet-el-Aryan. When the expedition first examined

* Hartwig, *Meisterschalen*, p. 107, Pl. X.

† Hartwig, *Jahrbuch des k. d. arch. Inst.* VII., 1892, p. 153, Pl. V.



Pyramid of Zawiet-el-Aryan Previous to Excavation *Seen from the East*



Pyramid of Zawiet-el-Aryan After Excavation *Seen from the Northeast*

Zawiah in 1903, a great mound about a hundred yards in diameter was visible on the edge of the rock plateau. Beside it on the north two or three graves had been opened by illicit diggers, and fragments of fine stone vessels and pottery of the First Dynasty were scattered about. The application for a concession was granted, but with the reservation of a place half a mile back in the desert. It was agreed that we should not begin until the *Service des Antiquités* had examined this reservation. When M. Barsanti had made this examination for the *Service*, he found an enormous sloping passage leading to a great cross-chamber open to the sky. The rock strata were very bad, some of them being little more than beds of packed sand. An attempt had been made to line the cross cut with red granite and to build a granite chamber in it. But this had been abandoned, and the tomb appears never to have been used. These excavations in the rock are royal in size and present the form of subterranean chambers, known to be characteristic of royal pyramids of the late Third and the Fourth Dynasties.

In 1910 the expedition received permission to excavate the mound referred to above, which was the part of the site which had attracted our attention. Our interest was excited in the place not so much by the work of the *Service* nearby as by an elevation below on the edge of the desert, which indicated the presence of a valley temple. The site was an old one occupied already in the First Dynasty. The mound represented without doubt a royal tomb, apparently a pyramid, with causeway and valley temple. It offered, therefore, the possibility of clearing up one of the obscure reigns of the Pyramid Age, and perhaps furnishing valuable illustrations of the art of this period.

During the past season (1910-1911) the exterior of the pyramid has been cleared of debris. Especial attention was paid to the northern face. An older excavation, possibly made by Vyse and Perring, was found cutting through the masonry to the central core of the pyramid. This gave us a cross section such as we have in no other pyramid. A central core was built about eleven meters square, of pyramidal form, with rough stones broken from the adjacent ledges. Against this a second casing two hundred and sixty centimeters thick was built of the same rough masonry. Then came one casing after the other, fourteen in all, of the same masonry, all of the same thickness. The surfaces of the core pyramid and the fourteen layers all make an angle of about sixty-eight degrees with the horizontal. The following list of pyramid slopes shows clearly to which group the Zawiah Pyramid belongs:

Step Pyramid at Saqqarah, Dynasty III,	72° 30'
Step Pyramid at Medum, " III,	73° 30'
True Pyramids at Giza, " IV,	52°
True Pyramids at Abusir, " V	} exterior, 50°
	} core layers, 77°
Blunted Pyramid at Dahshur, " XII	} bottom, 54° 41'
	} top, 43°

The Zawiah Pyramid, with its sixty-eight-degree

slope, approaches the form of the step pyramids more nearly than that of the true pyramids. The courses of masonry are not horizontal, as in the true pyramids, but slope inwards nearly at right angles to the faces of the layers, exactly as in the step pyramids at Saqqarah and Medum. Unfortunately the upper part of the Zawiah Pyramid is so destroyed that the question of its form cannot be determined, but the angle of the slope and the type of masonry indicate that it is a step pyramid.

The step pyramids and the layer pyramids are the structures which led Lepsius to form his much-discussed theory of the building of the pyramids. It has often been asked: How could a king, when he ascended the throne, know that he would live long enough to complete a great pyramid like that of Cheops? Lepsius answered that each king, as soon as he came to the throne, began his pyramid on a small scale, in order to assure himself a complete tomb. As time went on he enlarged it with layers or casings built over the smaller original pyramid. When he died his son finished the last stage. Thus each king had a pyramid roughly commensurate with the length of his reign.

This theory was not fully borne out by the examination of the other great pyramids made by Borchardt, but it was clear that the plan of each of the Giza Pyramids had been enlarged once or twice before it reached its final form. Even a true layer pyramid, such as Zawiah, is probably only an accidental illustration of Lepsius' theory. These earlier pyramids were built in layers, not in order to have a structure which might be completed at any time the king might die, but because they belong to an early stage in the growth of Egyptian stone architecture. They represent one of the early attempts of the Egyptians to solve the question of the use of stone in mass construction. In the Zawiah Pyramid two points are worthy of notice — the poor quality of the stone and the resemblance to mud-brick masonry. The Egyptians had been familiar with mud-brick for several centuries, and had developed a very complete mud-brick architecture with corbel vaults, true arches, barrel vaults, wooden columns, and fairly well bonded walls. The structural details of this mud-brick architecture are clearly seen copied in the early stone architecture. The Zawiah masonry, with its small stones not varying greatly in size, is exactly what might be expected of mud-brick masons confronted by a poor, easily-broken building stone close at hand.

2. THE DATE OF THE ZAWIAH PYRAMID

It has been assumed above that the Pyramid of Zawiet-el-Aryan is early. Unfortunately no evidence of the date was found in the debris about the pyramid nor in the underground chambers. The underground chambers have been cleared out at least twice in the last hundred years.

However, the form of the entrance and the plan of the underground chambers are like *those in private stairway tombs of the Third Dynasty*. The



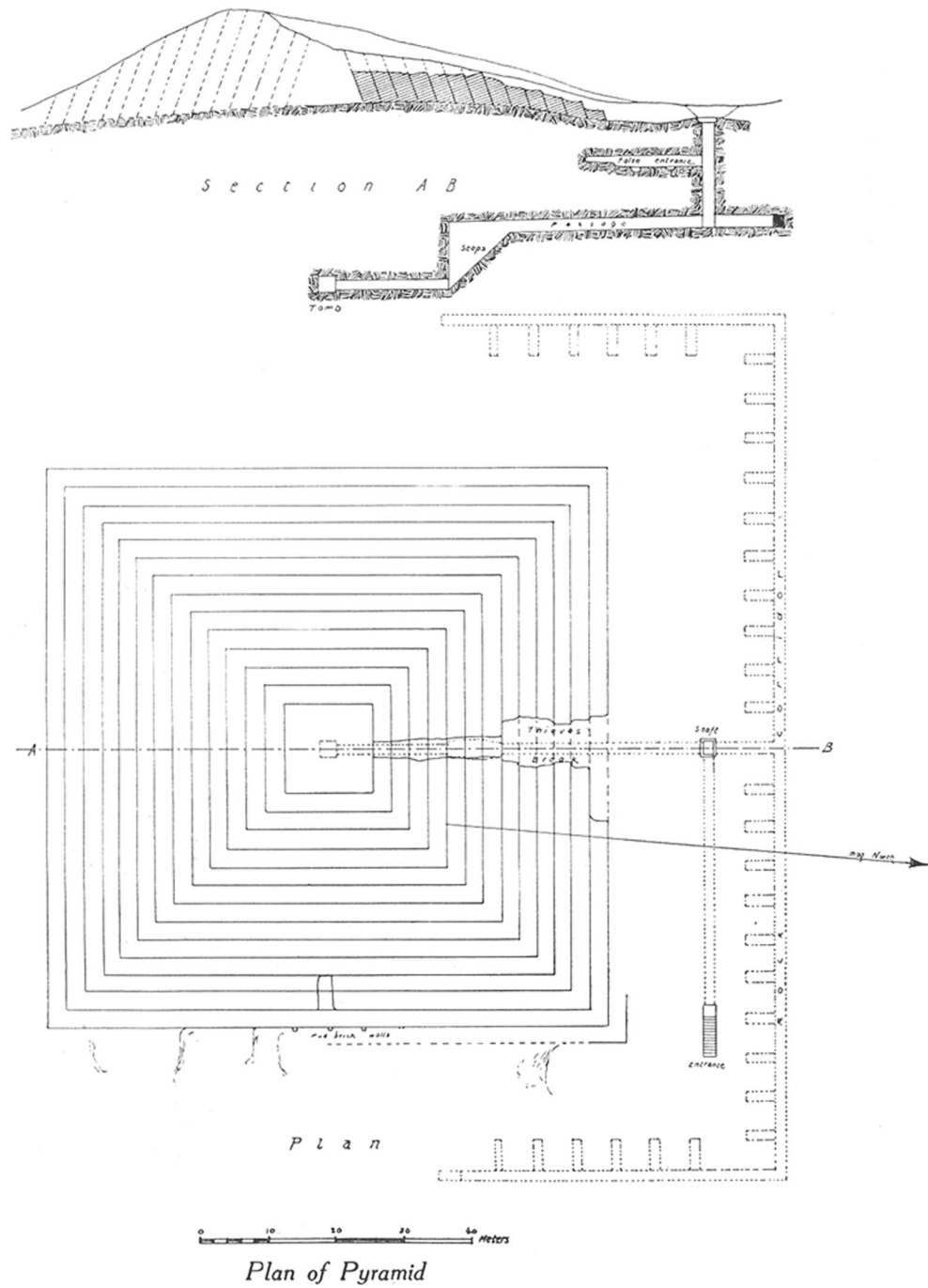
North Face of Pyramid

Seen from the North



Layers 11 to 15 of the Pyramid

Seen in Lepsius' Trench Looking East



entrance descends in a sloping passage from the west for ten meters, *then turns at right angles to the south* and descends fifty-four meters to a room cut in the rock underneath the mass of the masonry. The plan is similar to the stairway tomb found at Bet Khallaf by Professor Garstang, and dated by seal impressions of King Zoser of the Third Dynasty. The rock corridor on the north is anomalous and may possibly be of a later date.

Now around the Zawiah Pyramid were found five cemeteries,—one of the First Dynasty, one of the Second, one of the late Third, one of the Eighteenth, and one of the Roman period. Tombs of this size, especially royal pyramids, are surrounded by the tombs of other members of the family and by the tombs of officials. The only one of these five cemeteries which contains large and important tombs is that of the Third Dynasty. The Third Dynasty cemetery contains four large mud-brick mastabas of the type common in the late Third Dynasty. In one of these mastabas were found eight marble bowls, each inscribed with the name of the Horus Kha-ba. If the mastabas belong to people connected with the king who built the pyramid, it is probable that the king's name was Kha-ba. This king has hitherto been known to us only from a seal impression found by Quibell at Hierakonpolis, from a bowl found by the German Expedition in the Temple of Sahura and from a diorite bowl found by the Hearst Expedition in a mud-brick mastaba at Naga-ed-Der.

It seems tolerably certain, then, that the Pyramid of Zawiet-el-Aryan is a step pyramid of the Third Dynasty. The proximity of the large mud-brick mastabas makes it probable that the pyramid is from the end of that dynasty, and was, indeed, built by King Kha-ba.

The objects received by the Museum from these excavations are now in the course of preparation for exhibition and will form the subject of a later article.

G. A. R. and C. S. F.

Exhibition of Japanese Costume

Forecourt Room

TO illustrate fully in a single limited exhibition so complicated a subject as Japanese costume, to cover a lapse of time extending from the eighth century down to the present day, during which each period, each class, each age and sex, each occupation had its own distinctive dress,—a single costume sometimes consisting of as many as twenty-five separate garments besides many ornaments,—would be, of course, an impossibility. The present exhibition, therefore, is intended to illustrate only a few of the more important modes of dress, as exemplified in paintings, textiles and metal work, beginning with the Kamakura Period (twelfth century) and coming down to modern times (nineteenth century).

The series includes armor of the Ashikaga-Tokugawa Period, several costumes of the classic No dances, so characteristic of the Ashikaga Period (fourteenth to sixteenth centuries), and high, middle,

and low class dresses of the later Tokugawa Period. As the various arrangements of hair are of great importance in Japanese costume, particular attention has been given to showing the more usual fashions of head-dress; but the object of the exhibition in general is to give some idea of the principles and devices governing the peculiarly characteristic dress of the Japanese people from the earliest times.

The poetess represented in the second kakemono on the right-hand wall by the door wears the costume of the eleventh century. The dress of warriors and nobles of the twelfth century is shown in the painting at the left of the entrance and in the nearest desk-case under the window. The distinctive cap appears in the fourteenth-century costume of the actress travestied as a man, shown in two kakemono in the alcove opposite. The suit of armor nearby is of the sixteenth century; two between the further windows of the seventeenth, to which date the statuette of a woman opposite also belongs. The remaining paintings on the walls and in the cases represent costumes of the seventeenth, eighteenth, and nineteenth centuries. Three of the cases contain dresses and masks used in the No dances and in comic opera. A fourth contains voluminous garments worn by women.

J. E. L.



Frederic Porter Vinton

The Vinton Memorial Exhibition

THIS exhibition, which opened on November 14 with a private view, is noteworthy and eventful. It brings together the lifework of a most distinguished portrait painter, and it inaugurates the use of the Renaissance Court as a hall for the exhibition of paintings.